Using this ratio, we estimate the number of additional jobs created by increased demand for U.S. production of international telecommunications services. The calculation is shown in Table 5.

Table 5
Direct Effect of Increased U.S. Production on Jobs

	Amount	Source/ Comments
	(1)	(2)
(A) ΔGDP / ΔJobs ($ / Job)	$100,000	Discussed in text
Elasticity = -0.5		
(B) Direct Effect of Reduced Settlement Rates on U.S. Production ($ Billions)	$2.919	See Table 2
(C) Direct Effect of Global Telecommunications Market on U.S. Production ($ Billions)	$0.208	Half of effect on GDP in Table 4 (See text)
(D) Increment in Jobs (Thousands)	31	[(B)+(C)]÷(A)
Elasticity = -0.8		
(E) Direct Effect of Reduced Settlement Rates on U.S. Production ($ Billions)	$6.217	See Table 2
(F) Direct Effect of Global Telecommunications Market on U.S. Production ($ Billions)	$0.455	Half of effect on GDP in Table 4 (See text)
(G) Increment in Jobs (Thousands)	67	[(E)+(F)]÷(A)

[20](...continued)
existing labor force more intensively. Doing so incurs additional costs (*e.g.*, overtime pay) but it avoids the need to hire and train new employees. To meet long-run demand increases, however, the firm may find it more economical to hire and train new employees. For this reason, our study may underestimate the long-run impact on employment.

D. Total Effect (Including Indirect Effects) on U.S. GDP

Macroeconomic models typically embody "multiplier effects," which transform direct effects to total effects, including indirect effects. We estimate the total effects by inputting the direct increases in demand into a commercial macroeconomic model. We included the effects of increased production from both lowering settlement rates and increasing transiting traffic. The multiplier turned out to be 1.4. That provides a reasonable estimate of total macroeconomic effects relative to direct effects.

The resultant multiplier is applied to the increments of U.S. production, as estimated in the previous sections. It is not applied to other increases in U.S. income. Other increases in income have indirect effects, as the beneficiaries of the increased income spend part of the money on goods and services, and thereby stimulate the macro economy. We do not, however, have an estimate of the appropriate multiplier. By disregarding the indirect effects of the increase in income not associated with increases in production, we *underestimate* the gains from removing foreign impediments to free trade in telecommunications.

The calculation of total effects and indirect effects, is shown in Table 6.

Table 6
Total Effect (Including Indirect Effects)

		Direct Effect	Total Effect	Source/Comments
		(1)	(2) (1)x1.4	(3)
		Elasticity = -0.5		
		----------($ Billions)----------		
(A)	Effect of Reduced Settlement Rates on U.S. Production	$2.919	$4.087	See Table 2
(B)	Effect of Reduced Settlement Rates in Reducing Income Transfers from the U.S. Abroad	$2.331	$2.331[a]	See Table 3
(C)	Effect of Global Telecommunications Market on U.S. Production	$0.208	$0.291	Half of effect on GDP in Table 4 (See text)
(D)	Other Effects of Global Telecommunications Market on U.S. Income	$0.208	$0.208[a]	Half of effect on GDP in Table 4 (See text)
(E)	Effect on U.S. GDP	$5.666	$6.917	(A)+(B)+(C)+(D)
		----------(Thousands)----------		
(F)	Effect on Jobs	31	43	See Table 5
		Elasticity = -0.8		
		----------($ Billions)----------		
(G)	Effect of Reduced Settlement Rates on U.S. Production	$6.217	$8.704	See Table 2
(H)	Effect of Reduced Settlement Rates in Reducing Income Transfers from the U.S. Abroad	$2.331	$2.331[a]	See Table 3
(I)	Effect of Global Telecommunications Market on U.S. Production	$0.455	$0.637	Half of effect on GDP in Table 4 (See text)
(J)	Other Effects of Global Telecommunications Markets on U.S. Income	$0.455	$0.455[a]	Half of effect on GDP in Table 4 (See text)
(K)	Effect on U.S. GDP	$9.458	$12.127	(G)+(H)+(I)+(J)
		----------(Thousands)----------		
(L)	Effect on Jobs	67	94	See Table 5

[a] Indirect effect is not calculated for income transfers.

E. Effect on Overall U.S. Balance of Trade (Including Services)

Removing foreign impediments to free trade in international telecommunications would improve the overall U.S. balance of trade. The reduction in U.S. income transferred abroad (described in Section III.A-2) is the elimination of subsidy that the U.S. pays to foreign telephone companies. The entire amount constitutes an improvement of the overall U.S. balance of trade. In addition, lower prices would stimulate international calling. That would further improve the overall balance of trade, since calls terminating in the U.S. would be expected to increase more than calls originating in the U.S (because prices for calls terminating in the U.S. decline more than prices for calls originating in the U.S.).

In addition, the gain in U.S. GDP from additional transiting traffic consists solely of exports — both the effect on U.S. production and the other effects on U.S. income. Hence, the entire gain constitutes an improvement in the overall U.S. balance of trade.

These effects on the overall balance of trade are shown in Table 7.

Table 7
Effect on Overall U.S. Balance of Trade

	Amount	Source/ Comments
	($ Billions)	
	(1)	(2)
Elasticity = -0.5		
(A) Total Effect of Reduced Settlement Rates in Reducing Income Transfers from the U.S. Abroad	$2.331	See Table 6
(B) Total Effect of Global Telecommunications Market on U.S. Production	$0.291	See Table 6
(C) Total of Other Effects of Global Telecommunications Market on U.S. Income	$0.208	See Table 6
(D) Total Effect on Balance of Trade	**$2.830**	(A)+(B)+(C)
Elasticity = -0.8		
(E) Total Effect of Reduced Settlement Rates in Reducing Income Transfers from the U.S. Abroad	$2.331	See Table 6
(F) Total Effect of Global Telecommunications Market on U.S. Production	$0.637	See Table 6
(G) Total of Other Effects of Global Telecommunications Market on U.S. Income	$0.455	See Table 6
(H) Total Effect on Balance of Trade	**$3.423**	(E)+(F)+(G)

F. Long-Term Effects

All the effects estimated in the preceding sections are for one year. In reality, however, the gains from removing foreign impediments to free trade (compared to the base case of not removing impediments) would persist indefinitely and grow over time, as the international telecommunications market expands. In this section, we estimate the long-term gains by accumulating over 10 years.

In making these calculations, we take into account secular growth in the international telecommunications market. Total growth in international minutes has varied from 12 to 17 percent per year (see Table 8). We use 12 percent as a conservative estimate of future growth.

Price changes have been modest in the past — less than 1 percent per year. Consequently, virtually all the demand growth is exogenous growth — not stimulation from price reductions. Tables 9, 10 and 11 show growth factors associated with a growth rate of 12 percent per year. Final results are as follows:

- Demand Elasticity of -0.5:
  - — Increase in GDP: + $120 billion (sum of impacts for next 10 years)
  - — Increase in jobs in 10th year: +120,000 jobs
  - — Improvement in overall balance of trade: $50 billion (sum of impacts for next 10 years)

- Demand Elasticity of -0.8:
  - — Increase in GDP: + $210 billion (sum of impacts for next 10 years)
  - — Increase in jobs in 10th year: +260,000 jobs
  - — Improvement in overall balance of trade: $60 billion (sum of impacts for next 10 years)

Table 8
U.S. and Foreign Billed Minutes of International Traffic

Year	U.S. Billed	Foreign Billed	Total Billed	Annual Growth Rate
	(Billions of Minutes)			(Percent)
	(1)	(2)	(3) (1)+(2)	(4)
1985	3.349	2.250	5.598	-
1986	3.907	2.482	6.390	14.13%
1987	4.480	2.722	7.202	12.72
1988	5.190	2.979	8.169	13.42
1989	6.109	3.449	9.558	17.01
1990	7.215	3.897	11.112	16.26
1991	9.072	4.769	13.841	[a]
1992	10.224	5.314	15.539	12.27

Note: Detail may not add to total due to rounding.

[a] The annual growth rate from 1990 to 1991 is not calculated due to FCC reporting and definitional changes in 1991.

Source: Cols. (1) & (2): FCC, Industry Analysis Division, Common Carrier Bureau, "International Communications Traffic Data Report," 1985-1992, Table A1 and Appendix 1, Table A-1.

Cols. (3) & (4): Derived from data in Cols. (1) and (2).

Table 9
Long-Term Effect on U.S. GDP
Over a 10-Year Period

Year	Growth Factor for Total International Minutes[a]	Elasticity = -0.5: Growth Factor Multiplied by One-Year Effect[b]	Elasticity = -0.8: Growth Factor Multiplied by One-Year Effect[c]
		($ Billions)	
	(1)	(2) (1)x$6.917	(3) (1)x$12.127
1	1.00	$6.917	$12.127
2	1.12	7.747	13.582
3	1.25	8.674	15.207
4	1.41	9.718	17.038
5	1.57	10.887	19.088
6	1.76	12.188	21.368
7	1.97	13.654	23.939
8	2.21	15.293	26.813
9	2.48	17.126	30.026
10	2.77	19.181	33.628
Long-Term Effect		**$121.385**	**$212.816**

[a] Discussed in text.
[b] See Table 6, Row (E), Column (2).
[c] See Table 6, Row (K), Column (2).

Table 10
Long-Term Effect on U.S. Jobs
Over a 10-Year Period

Year	Growth Factor for Total International Minutes[a]	Elasticity = -0.5: Growth Factor Multiplied by One-Year Effect[b]	Elasticity = -0.8: Growth Factor Multiplied by One-Year Effect[c]
		----------(Thousands of Jobs)----------	
	(1)	(2) (1)x43	(3) (1)x94
1	1.00	43	94
2	1.12	48	105
3	1.25	54	118
4	1.41	60	132
5	1.57	68	148
6	1.76	76	166
7	1.97	85	186
8	2.21	95	208
9	2.48	106	233
10	2.77	119	261

[a] Discussed in text.
[b] See Table 6, Row (F), Column (2).
[c] See Table 6, Row (L), Column (2).

Table 11
Long-Term Effect on U.S. Overall Balance of Trade
Over a 10-Year Period

Year	Growth Factor for Total International Minutes[a]	Elasticity = -0.5: Growth Factor Multiplied by One-Year Effect[b]	Elasticity = -0.8: Growth Factor Multiplied by One-Year Effect[c]
		($ Billions)	
	(1)	(2) (1)x$2.830	(3) (1)x$3.423
1	1.00	$2.830	$3.423
2	1.12	3.170	3.834
3	1.25	3.549	4.292
4	1.41	3.976	4.809
5	1.57	4.454	5.388
6	1.76	4.986	6.031
7	1.97	5.586	6.757
8	2.21	6.257	7.568
9	2.48	7.007	8.475
10	2.77	7.848	9.492
Long-Term Effect		**$49.663**	**$60.069**

[a] Discussed in text.
[b] See Table 7, Row (D), Column (1).
[c] See Table 7, Row (H), Column (1).

III. ADDITIONAL BENEFITS TO THE U.S.

The preceding section quantified some important benefits of removing foreign impediments to free trade in telecommunications. However, there are many additional benefits that cannot be easily quantified. They are discussed in this section.

Most importantly, U.S. firms are extremely well-positioned to provide competitive telecommunications services between and within foreign countries. U.S. interexchange carriers and suppliers of value-added services have had many years of experience in competitive markets. Their skills in developing and marketing new services and responding to customer needs have been honed, while foreign carriers have typically enjoyed stable monopoly markets. In addition, U.S. firms, unlike foreign telephone monopolists, have experience in competitive advertising and developing new competitive rate plans.

U.S. firms also have the edge in technology. The U.S. leads the world in telecommunications technology. U.S. firms have developed most of the technological advances in telecommunications since the industry began. Beginning with the invention of the telephone itself in Boston and the subsequent initial deployment of telephony, U.S. firms have played a leading role in each of the industry's major technological advances. These include automatic switching, long-distance direct dialing automation, cellular, Ethernet LANs, intelligent networks, and common channel signalling. Especially important in this regard are enhancements to 800 services. U.S. interexchange carriers have many features currently in place for routing calls flexibly, depending on customer needs. None of our major trading partners have such services in place. Consequently, the U.S. would have a substantial advantage in marketing 800 services.

U.S. firms have also led in the development of virtual private networks. If foreign impediments to free trade in telecommunications were eliminated, multinational corporations could have seamless global virtual private networks that would provide calling capability to meet their total needs: within the U.S.; between the U.S. and foreign countries, and within and between foreign countries. These seamless services would have advanced features such as simplified, integrated corporate-wide dialing plans, number portability inside the

corporation and call forwarding inside the organization.[21] These features are readily available in the U.S., but are not offered by most U.S. major trading partners. U.S. interexchange carriers could be strong competitors in this area.

Value-added services are another area in which the U.S. excels. The U.S. led the world in opening these services to competition in the 1970s. While many countries have now copied this U.S. initiative, the U.S. gained a significant advantage from its head start. Electronic mail (E-mail) is an important example of U.S. leadership. The U.S. has always had an open market for E-mail services. As a consequence, the E-mail industry in this country has grown vigorously. Indeed, the E-mail systems in many other countries use software originally developed for the U.S. market. Similarly, the Internet was able to grow rapidly in the U.S. because the regulatory structure permitted such innovation. Currently, it is estimated that the worldwide Internet provides connectivity to more than two million hosts, and several times as many users worldwide[22] (most of which are in the U.S.).

The U.S. edge in technology could be even more important in the future. Indeed, the US could become a hub for global intelligent network services. For example, suppose a call is going from the U.K. to the European Continent (or even within the U.K.). The first step might be to query a database in the U.S., which would provide instructions for routing the call. The instructions might depend on the number called, the number of the caller, the time of day, or specific instructions by the party being called. The U.S. would thereby provide the software and databases for flexibly routing calls throughout the world.[23] The technology

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[21]Many features (including simplified integrated corporate-wide dialing plans and number portability inside the organization) can be offered even in countries whose telecommunications infrastructure is not highly advanced. Indeed, the features may be most valuable in such countries. Other features do, however, depend on the infrastructure of the country. For example, DTMF capability (*e.g.*, Touchtone) is required for call forwarding. As a consequence of differing infrastructures, today's bilateral VPN services do not offer the same feature sets in both countries. The new, global services would overcome this deficiency by employing technology platforms that would provide identical capabilities in multiple countries.

[22]SRI International, "Internet Domain Survey," October 1993 (supplied by InterNIC Information Service, San Diego, California).

[23]Under this scenario, the calls themselves would *not* be routed to the U.S. Only signalling information would be exchanged between the U.S. and the foreign countries. The incremental cost of transmitting signalling information to/from the U.S. would be negligible.

required is closely related to technologies in which the U.S. already excels; *e.g.*, those used to provide enhanced 800 services.

Competition would also spur improvements in the quality of international telecommunications. At present, the number of international calls blocked is disproportionately higher than that experienced on calls within the U.S. because foreign carriers do not have adequate facilities. Competition would attract new entrants, eager to participate in the lucrative international market by providing better service than the incumbent. The incumbent carrier would likely respond to this competitive pressure by improving the quality of its network and its service.

U.S. business generally — not just the telecommunications sector — would benefit from quality improvements in international telecommunications. It would also benefit from the development of a seamless global network.

All of these developments are possible if the U.S. Government bargains tough to open up foreign telecommunications markets to competition. However, they are *not* possible with the current protectionist barriers to competition erected by most foreign governments.

IV. PROBLEMS WITH ALLOWING FOREIGN ENTRY WITHOUT GETTING COMPARABLE ACCESS

The preceding sections described some of the economic benefits of removing foreign impediments to free trade in telecommunications. These results can be achieved only through tough bargaining by officials and agencies of the U.S. Government. Failure by the U.S. Government to bargain aggressively will perpetuate a *status quo* in which foreign markets move slowly to introduce competition and the U.S. citizenry continues to pay over $2 billion in subsidy to foreign governments and their monopolies. Failure to bargain aggressively will also forfeit the benefits of the Golden Age in international telecommunications.

Federal inaction can also lead to a bad result of another kind. Suppose that the Federal Government stands by, allowing foreign carriers to enter the U.S. market without demanding comparable access to foreign markets. What would the impacts be? The answer is: U.S. citizens would not enjoy the consumption benefits and employment opportunities of increased competition in a growing market; foreign countries would have a significant edge in competing for international traffic, and even domestic U.S. traffic; and, to the extent that occurs, foreign monopolies would become even more powerful, and more determined to protect their home markets. Once having acquired the benefits of entry to the U.S. market without sacrifice, there is no incentive to open their home markets, and every incentive to keep them closed for as long as possible.

A. No Price Reductions in Foreign Countries

Foreign monopolistic telecommunications operators have no incentive to voluntarily allow competition in their markets. But, in most foreign countries, the most immediate pressure for competition could come from the U.S. Government as foreign operators seek to expand their operations to the U.S. Foreign operators have no incentive whatever to permit competition if they can obtain access to the U.S. market without making any concessions at all.

B. No Stimulation of Demand Resulting from Reduction of Subsidies

The reason that settlement rates are currently excessive (with respect to cost) is because foreign monopolistic telecommunications operators prefer them to be excessive and have not agreed to (commensurate) settlement reductions as costs have fallen. One effect of high settlement rates is that U.S. residents fund part of the cost of the foreign country's domestic telephone system. Another result is that U.S. customers fund the expansion plans of foreign carriers as they enter new markets, like the U.S. Without competitive pressures or additional pressure from the U.S. Government, the telecommunications operators are unlikely to reduce settlement rates; foreign governments also are not inclined to take steps to make them do so — even if the telephone system is privately owned.

C. Competitive Edge for Foreign Countries

Foreign carriers, by obtaining access to the U.S. market, while denying comparable access to U.S. carriers, gain a significant advantage in competing for international traffic. For example, BT could then offer seamless global solutions to both U.S. and U.K. customers.[24] U.S. carriers would be unable to offer comparable solutions, because of the barriers to competition in the U.K., which reserve all facilities-based international service authority to BT and Mercury. Thus, BT would be able to compete for traffic between the U.S. and the European Continent, using the U.K. as a hub. U.S. carriers would not, however, be able to compete for traffic between the U.K. and the Far East, using the U.S. as a hub.

The advantage would spill over to the domestic U.S. market. Many U.S. firms may prefer one-stop shopping and will select their carrier in the U.S. based on the customer's total calling needs: domestic interexchange, international and global. If only foreign carriers and their U.S. affiliates can provide seamless global network services, the foreign affiliate will

[24]Multinational corporations today are denied the full technological benefits of the U.S. network when they procure international and global services. They can have corporate networks with uniform equipment and services in the U.S. and abroad, but they necessarily conform to the "lowest common denominator" of what is technically available from the various monopolist telecommunications administrations around the world. The alternative is to bear the cost and inefficiency of administering a corporate network with different suppliers, features and functions, billing and payment options, pricing plans, and service intervals.

have an advantage in the competitive battle in the U.S. domestic market, but not because it has a lower price or better quality. Rather, it wins because its foreign affiliate, with the support and protection of its government, maintains restrictive practices in the foreign market.

D. Future Bargaining Leverage Lost

Until foreign entry is permitted, the U.S. has substantial bargaining leverage. It can credibly threaten to deny entry unless the foreign country meets certain conditions. Denying entry causes no dislocations in the U.S. as the market is already competitive. U.S. customer needs are already being met better and more efficiently than in other countries.

After foreign entry is permitted, however, much of the bargaining leverage of the U.S. is lost. Theoretically, the U.S. could threaten to discontinue the foreign carrier's operations, but the threat may not be credible. Without a credible threat, the U.S. would have no bargaining leverage. The U.S., therefore, could not expect, after entry by the foreign carrier, to exert sufficient pressure to reduce barriers to competition in foreign markets or to lower settlement rates.

This loss of U.S. leverage is precisely what happened with regard to competition in terminal and network equipment. The U.S. granted unilateral entry to foreign suppliers without demanding comparable access. Afterwards, the U.S. had little leverage to open up foreign markets.

V. U.S. BARGAINING LEVERAGE

The U.S. can successfully use its leverage in bargaining for access by its carriers to foreign telecommunications markets. As the leverage is used, foreign governments will understand they have more at stake than the U.S. and they will likely yield. The trend is toward a global marketplace for most goods and services. No carrier/country can be a credible global player without a significant capability to enter and operate in the U.S. marketplace. Therefore, the U.S. market is a key requirement for services.

The U.S. is the largest, most lucrative market in the world. Table 12 illustrates this point by showing import, export, and GDP measurements for the major economic powers. It shows that the U.S. is the largest economy in the world, nearly twice the size of the next largest, Japan. Most of the countries shown rely far more on international trade than does the U.S., as shown by the column measuring exports as a percent of GDP. This puts the U.S. in a position of bargaining strength versus other countries. Table 13 shows the trade flows between the U.S. and the U.K. The U.K.'s trade with the U.S. represents nearly 10 percent of its entire trade, while the U.S. trade with the U.K. is less than 4 percent of its trade.

Table 12
Trade and Gross Domestic Product (GDP) of the Group of Seven Countries and Spain

1991

Country	Imports	Exports	GDP	Exports as a Percent of GDP
	(Billion U.S. Dollars)			(Percent)
	(1)	(2)	(3)	(4) (2)÷(3)
Canada	$149.7	$144.0	$ 582.0	24.7%
France	267.0	270.5	1,199.3	22.6
Germany	436.4	537.3	1,574.3	34.1
Italy	223.4	224.4	1,150.5	19.5
Japan	286.0	347.5	3,362.2	10.3
Spain	107.5	91.0	527.1	17.3
U.K.	248.7	239.6	1,009.5	23.7
U.S.	620.0	589.4	5,610.8	10.5

Source: Organization for Economic Co-operation and Development (OECD), "OECD in Figures, 1993."

Table 13
Trade of Commodities

1991

U.S. with U.K.

U.S. Imports			U.S. Exports		
From U.K.	Total	Percent of Total	To U.K.	Total	Percent of Total
--(Thousand U.S. Dollars)---		(Percent)	---(Thousand U.S. Dollars)----		(Percent)
(1)	(2)	(3) (1)÷(2)	(4)	(5)	(6) (4)÷(5)
$19,022,504	$507,255,488	3.75%	$20,301,956	$397,447,618	5.11%

U.K. with U.S.

U.K. Imports			U.K. Exports		
From U.S.	Total	Percent of Total	To U.S.	Total	Percent of Total
--(Thousand U.S. Dollars)---		(Percent)	---(Thousand U.S. Dollars)----		(Percent)
(1)	(2)	(3) (1)÷(2)	(4)	(5)	(6) (4)÷(5)
$20,478,698	$210,002,608	9.75%	$18,268,295	$185,120,421	9.87%

Source: OECD, "Foreign Trade by Commodities, 1991," 1992.

The U.S. also has great bargaining power with respect to trade in telecommunications services. The U.S. is by far the largest telecommunications market. Table 14 shows incoming and outgoing international calling for the major countries. Foreign carriers extract enormous profits from this unbalanced trade with the U.S., especially on calls originating in the U.S.

Table 14
Total Outgoing and Incoming Minutes of Telecommunications Traffic (MiTT) of Group of Seven Countries and Spain

1991

Country	Total Outgoing MiTT	Total Incoming MiTT
	(Millions)	
	(1)	(2)
Canada[a]	647	398
France	2,295	2,355
Germany	NA	NA
Italy[a]	239	281
Japan	NA	NA
Spain	719	737
U.K.	NA	NA
U.S.[a]	5,985	2,830

NA — not available

[a] Intercontinental traffic only.

Source: IIC, "TeleGeography 1992, Global Telecommunications Traffic Statistics and Commentary," Table 3a.

Because other countries rely more on trade than does the U.S. and rely particularly on trade with the U.S., they stand to receive a far greater blow than the U.S. if international telecommunications trade was interrupted. The U.S. is, therefore, likely to prevail if it bargains tough. The best way to achieve this end is to establish an unambiguous policy that settlement rates must fall to nondiscriminatory, cost-based levels and that access to foreign markets must be open to the degree they are in the U.S.. If the U.S. continues to deal with these issues in an *ad hoc* fashion, it risks sending conflicting or diluted messages that will not lead to needed changes.

VI. CONCLUSIONS

Foreign impediments to free trade in international telecommunications services substantially harm the U.S. economy. These impediments take two forms: (1) protectionist restrictions which inhibit competitive expansion by U.S. carriers abroad and afford a method for leveraging foreign monopoly power into the U.S. marketplace; and (2) inflated settlement rates for terminating international calls. The U.S. Government should bargain aggressively to remove those impediments. This study estimates the potential demand- and supply-side benefits potentially achievable through aggressive bargaining.

Protectionist restrictions on competitive supply by U.S. carriers limit trade in an area in which the U.S. possesses a substantial comparative advantage. This comparative advantage consists of technological leadership, together with marketing skills honed in the competitive U.S. markets for long-distance and value-added services. Currently, most foreign telecommunications markets are closed to competition. The resale of international and domestic long-distance services is usually restricted and the construction of facilities to compete in those markets is usually prohibited. Where competition has been permitted, the incumbent monopoly carrier is generally not required to offer full equal access capabilities to competitors. In contrast, the U.S. markets for international and long-distance services are open. Full equal access, including dialing parity, is provided. A variety of structural and nonstructural safeguards are in place to reduce barriers to entry.

Inflated settlement rates restrict demand by artificially increasing the price of international calling and result in the unwarranted redistribution of very large amounts of money from the U.S. to foreign countries. The amounts paid in excess of actual costs incurred to complete international calls — *currently over $2 billion per year* — are simply subsidies by U.S. customers to foreign carriers — many of which are owned by foreign governments. In 1992, the subsidy paid was equivalent to approximately 35 percent of the total U.S. budget for foreign aid. However, unlike foreign aid programs, a significant part of the subsidy from international telecommunications is paid to industrialized, high-income countries, rather than developing countries.

Because settlement rates are set so far above actual costs and because, as a result of competition in the U.S., the volume of U.S. billed traffic going abroad far exceeds foreign billed traffic coming to the U.S., substantial rents flow from the U.S. to foreign telephone companies. The uneven traffic flow itself provides an incentive for foreign governments to maintain high settlement rates. The combination of excessive settlement rates and traffic flow imbalances leads to excessive payments from the U.S., economically inefficient pricing, and the effective restraint of free trade in international telecommunications services. Foreign governments have little incentive to undermine the circumstances that produce these adverse outcomes for the U.S. Their primary incentives are to sustain high settlement rates and to maintain their monopoly structure and protectionist restrictions.

Elimination of these two types of foreign impediments to free trade would usher in a "Golden Age" in international telecommunications. The market for these services would grow enormously, creating a more cosmopolitan world by improving both economic and personal ties among citizens of different countries. Reduction of foreign barriers to competition in telecommunications services would provide strong incentives for incumbent carriers to reduce their costs as they compete with new entrants. Discount pricing plans would be established in foreign countries and substantial price reductions would result as they have in the U.S. Free competition would also lead foreign countries to modernize their networks and provide higher quality and innovative services, comparable to those offered in the competitive U.S. long-distance market. Reduction of settlement rates, in conjunction with the ability to compete freely, would lead to price reductions for international calling. Customers would be induced to make more international calls at lower costs. As a consequence of these changes, increased and improved communications among countries would enhance productivity, expand the world economy and increase the number of employment opportunities both in the U.S. and abroad.

If foreign barriers to competition were abolished, international telecommunications could become a truly global market, in which many countries would compete for international calls — not just the countries that originate or terminate calls. Efficiency could be significantly improved by making use of other countries' facilities that would otherwise be

idle. This would open significant new market opportunities for the U.S. to provide transiting and value-added on international calls that neither originate nor terminate in the U.S.

Removal of foreign impediments to free trade would directly stimulate demand for U.S. production of international telecommunications services. This would translate directly into jobs for American workers. Transfers of income from the U.S. to foreign countries would be reduced. These gains in production and income would directly contribute to the U.S. GDP. The overall U.S. balance of trade would also be enhanced because the subsidies paid to foreign telephone companies would decline substantially, and exports would be stimulated.

We estimate that the potential gains associated with a Golden Age in international telecommunications, over the next 10 years, would add up to:

- Creation of 120,000 to 260,000 new jobs in the U.S. by 2002;
- Cumulative growth of $120 to $210 billion in U.S. GDP; and
- Accumulated improvement of $50 to $60 billion in the U.S. balance of trade.

One cannot realistically expect to achieve *all* these gains through tough bargaining or to achieve them all immediately. However, the gains are so large that achieving even a modest portion of them over time would substantially benefit the U.S. economy.

If foreign impediments to free trade in telecommunications services were eliminated, the U.S. would reap additional gains that are more difficult to quantify:

- The U.S. is well-positioned to compete for telecommunications services between and within foreign countries;
- The U.S. could also become a hub for future global intelligent network services;
- U.S. business would benefit from the development of a seamless global network; and
- Competitive pressures would cause foreign carriers to improve the quality of their international networks and thereby allow more U.S. calls to be successfully completed.

Currently the largest and most lucrative market in the world, the U.S. relies far less on international trade than most of the major foreign economic powers. This economic strength translates into bargaining leverage *vis-à-vis* other countries. The U.S. also has great bargaining power with regard to trade in telecommunications services, because it is by far the largest telecommunications market in the world. Because the U.S. has these advantages over other countries, it is likely to prevail if it bargains tough. However, once foreign entry is permitted without comparable U.S. access to foreign markets, the U.S. will have lost its ability to bargain effectively and, in fact, will have created even greater incentives for foreign governments to keep their markets closed and to leverage their market power.

The U.S. Government must acquire the fortitude to exploit its considerable bargaining strength to negotiate fair trading arrangements for telecommunications services. The U.S. now pays over $2 billion per year in subsidies to foreign telephone companies, and this figure is growing. *The existence of subsidies of this magnitude, often to prosperous countries, is a trade scandal for which there is no compelling economic policy justification or defense.*

Failure to bargain aggressively will forfeit the benefits to the U.S. economy of a Golden Age in international telecommunications. The consumption benefits, income gains and employment opportunities of increased competition in a flourishing market will all necessarily be foregone. Foreign monopolistic telecommunications operators have no incentive to voluntarily allow competition in their markets, particularly if the U.S. Government is willing to provide access to our market without demanding comparable access in return. Without additional pressure from the U.S. Government, foreign telecommunications operators will continue to maintain excessive settlement rates. Foreign countries with access to the U.S. telecommunications market would be able to compete with one another for traffic between the U.S. and other countries; yet, U.S. carriers would not be able to compete in a similar fashion because of restrictions in foreign countries regarding such competition. Foreign entry without comparable access could also skew competition in the U.S. domestic long-distance market because customers may prefer to purchase domestic services from an affiliate of the foreign carrier in order to get one-stop shopping.

U.S. policymakers face an immediate challenge on this front. Insulated from U.S. competition in their home markets, foreign telephone companies are now entering the U.S.

market. For example, the traditional incumbent British telephone company, BT, has announced its plans to acquire 20 percent of MCI. If the deal goes through, the U.K. will be much better positioned to compete with the U.S. in international telecommunications markets. The reason will not be market factors, which generally favor the U.S. It will be the failure of the U.S. Government to take decisive action to end protectionist regulation by foreign governments and the U.K. in particular. If this entry to the U.S. market is permitted *without comparable access for U.S. firms in the U.K.*, U.S. policymakers will have missed a significant opportunity to foster free competition and open markets in an area where U.S. firms excel. The U.S. Government should establish an unambiguous policy that settlement rates must fall to nondiscriminatory, cost-based levels and that access to foreign markets be promptly opened to afford U.S. carriers comparable marketplace opportunities as those being obtained by foreign carriers in the U.S.